

**In the Claims:**

1. (Currently Amended) A method for boundary detection in a stream of digital sample values, wherein the boundary is between an idle communication channel and a transmission packet on the same communications channel, the method comprising:  
  
receiving the stream of digital sample values;  
  
correlating a ~~single~~ received digital sample value with a plurality of other received digital sample values to generate a corresponding plurality of correlation results;  
  
calculating a correlation value from the corresponding plurality of correlation results; and  
  
comparing the correlation value against a threshold to determine the presence of the boundary.
2. (Currently Amended) The method of claim 1, wherein the ~~single~~ received digital sample value is a recently received digital sample value.
3. (Original) The method of claim 1, wherein the stream of digital sample values are generated by periodically sampling the communications channel.
4. (Currently Amended) The method of claim 3, wherein the ~~single~~ received digital sample value is a recently sampled value.
5. (Currently Amended) The method of claim 1, wherein ~~the correlation is a two-value correlation~~ correlating the received digital value comprises correlating a pair of received digital sample values with a plurality of pairs of other received digital sample values.

6. (Currently Amended) The method of claim 1, wherein ~~the correlation is a multi-value correlation~~ correlating the received digital value comprises correlating a group of received digital sample values with a plurality of groups of other received digital sample values.
7. (Currently Amended) The method of claim 6, wherein ~~the correlation is a three-value correlation~~ each group includes three digital sample values.
8. (Currently Amended) The method of claim 1, wherein the plurality of other received digital sample values are selected from the received stream based on their position in different periods of a periodic sequence.
9. (Currently Amended) The method of claim 1, wherein the received stream is stored in memory, wherein the boundary being detected is a boundary at an end of a periodic sequence, and wherein the plurality of other received digital sample values are digital sample values stored in memory locations with memory locations with memory addresses that correspond to integer multiples of digital sample values in a period of the periodic sequence starting at the memory address of the memory location containing the digital sample value.
10. (Currently Amended) The method of claim 9, wherein the number of digital sample values in the plurality of other received digital sample values is less than or equal to the number of periods in the periodic sequence.
11. (Currently Amended) A method for packet detection in a stream of digital sample values, the method comprising:
- receiving the stream of digital sample values;

correlating a ~~single~~ received digital sample value with a plurality of other received digital sample values to generate a corresponding plurality of correlation results;

calculating a correlation value from the corresponding plurality of correlation results; and

comparing the correlation value against a threshold; to determine the presence of the packet boundary.

12. (Original) The method of claim 11, wherein the packet is transmitted over a previously idle communications channel.

13. (Original) The method of claim 12, wherein the stream of digital sample values is produced by periodically sampling the communications channel.

14. (Original) The method of claim 13, wherein a digital sample of the idle communications channel is different in value from a digital sample of the communications channel transmitting the packet.

15. (Currently Amended) The method of claim 11, wherein the received stream is stored in memory, and wherein the correlating step comprises:

comparing the received digital sample value with the plurality of other received digital sample values;

generating a one value for each time the received digital sample value matches with one of the other digital sample values in the plurality; and

generating a zero value for each time the received digital sample value does not match with one of the other digital sample values in the plurality.

16. (Currently Amended) The method of claim 11, wherein the calculating step comprises summing up a correlation result resulting from each correlation of the received digital sample value with the plurality of previously received other digital sample values.
17. (Original) The method of claim 11, wherein the correlating and calculating steps are performed more than once and an average correlation value is determined and compared against the threshold.
18. (Original) The method of claim 11, wherein the packet detection is performed after each digital sample value is received.
19. (Original) The method of claim 11, wherein the packet detection is performed after a specified number of digital sample values is received.